

## (12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
12 February 2004 (12.02.2004)

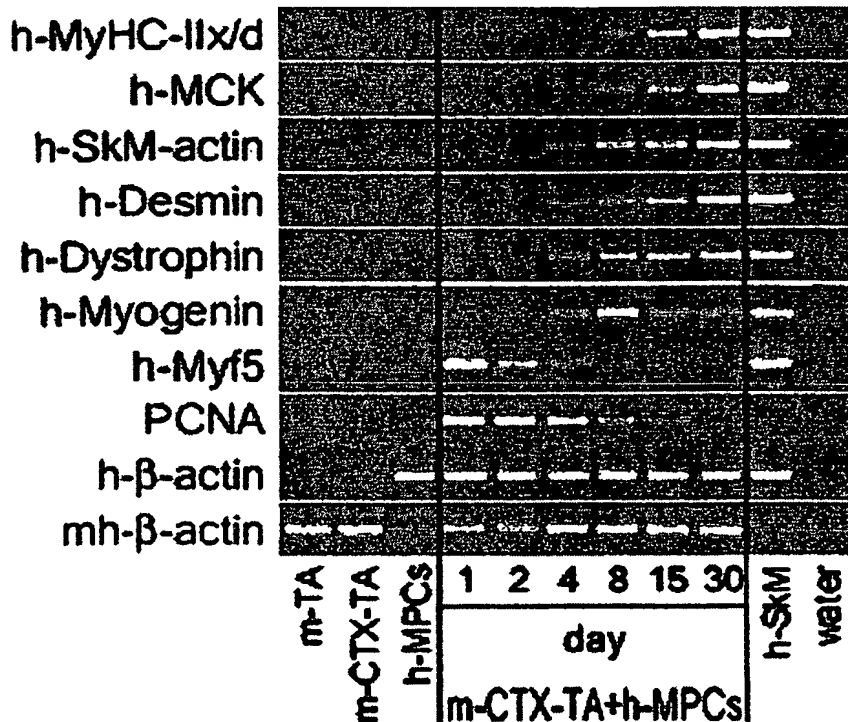
PCT

(10) International Publication Number  
**WO 2004/012503 A2**

- (51) International Patent Classification<sup>7</sup>: **A01K 67/027** (74) Agents: **HERTOGHE, Kris et al.**; Bird Goën & Co., Klein Dalenstraat 42 A, B-3020 Winksele (BE).
- (21) International Application Number:  
PCT/EP2003/009008 (81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (22) International Filing Date: 30 July 2003 (30.07.2003) (84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:  
60/399,745 30 July 2002 (30.07.2002) US
- (71) Applicant (*for all designated States except US*): **TIGENIX N.V.** [BE/BE]; Technologielaan 3, B-3001 Leuven (BE).
- (72) Inventors; and
- (75) Inventors/Applicants (*for US only*): **DE BARI, Cosimo** [IT/GB]; 46, Mays Hills Road, Bromley, Kent BR2 0HT (GB). **LUYTEN, Frank** [BE/BE]; Baron d'Huartlaan 193, B-1950 Kraainem (BE). **DELL'ACCIO, Francesco** [IT/GB]; 46, Mays Hills Road, Bromley, Kent BR2 0HT (GB).
- Published:  
— *without international search report and to be republished upon receipt of that report*

[Continued on next page]

(54) Title: COMPOSITIONS COMPRISING MUSCLE PROGENITOR CELLS AND USES THEREOF



(57) Abstract: The present invention shows the *in vivo* myogenic differentiation of muscle progenitor cells (MPCs), being derived from joint tissue, in a mouse model of skeletal muscle regeneration. MPCs participated in the regeneration process by long-term persistence and contribution to the compartment of myonuclei and the pool of functional satellite cells. When injected into dystrophic muscles of immunosuppressed mdx mice, human MPCs restored dystrophin in some fibers, and rescued the expression of mouse mechano-growth factor. In addition, the human MPCs derived from synovial membrane were injected into infarcted myocardial muscle. The MPCs engrafted successfully, underwent proliferation and differentiation leading to functional recovery and maintenance of the cardiac muscle. MPCs represent an alternative source of myogenic cells in therapeutic approaches for postnatal skeletal and cardiac muscle repair.

BEST AVAILABLE COPY